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Manufacturing The Future of Communications™

InterDigital®

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JUL 29 1993

FCC - MAIL

Mr. Bill Caton
Federal Communications Commission
1919 M Street, N.W. - Room 222
Washington, D.C. 20554

July 28, 1993

Re: **Reply Comments of InterDigital Communication Corporation in PR Docket 93-61**

Dear Mr. Caton:

Transmitted herewith are an original and four copies of the reply comments of InterDigital Communications Corporation in the above referenced proceeding.

If you have any questions with regard to this matter, please do not hesitate to contact me.

Sincerely,

Donald L. Schilling
Executive Vice President

No. of Copies rec'd 0+4
List A B C D E

Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 90 of the	)	PR Docket NO. 93-61
Commission's Rules to Adopt	)	RM-8013
Regulations for Automatic	)	
Vehicle Monitoring Systems	)	

REPLY COMMENTS OF INTERDIGITAL COMMUNICATIONS CORP.

I. INTRODUCTION

InterDigital Communications Corporation ("InterDigital") respectfully submits the following reply comments in the above captioned proceeding. InterDigital is developing a wireless PBX using spread spectrum technology operating in the 902-928 MHz band and is therefore vitally interested in the changes to the rules proposed in this proceeding. In fact, we believe that if the proposed rules are adopted, the band will soon become unusable for both AVM and Part 15 equipment.

The rules proposed in this proceeding will cause a substantial increase in electromagnetic interference to support the expansion of AVM into a Location and Monitoring Service (LMS), and to allow the use of this band for object and personal location as well as a major messaging service. The increased traffic caused by LMS licensees will conflict directly with the increased use of unlicensed Part 15 equipment. This conflict will result in a high interference environment for both LMS systems

and Part 15 equipment. In fact, it is likely that the LMS[1] as proposed in the NPRM will never be able to reach the capacity and user density which is required to make it an economically viable service. Commission action as proposed in the NPRM will raise the interference levels in this band above those which either Part 15

per day or 4000 location requests per minute.[4] Add to this the enormous potential for traffic increase inherent in "status and instructional messages related to the units involved".[5] In this

On the contrary, InterDigital's wireless PBX product will

interference to LMS receivers. Metricom filed comments which show that Part 15 devices may cause interference to a Teletrac wideband type system within an 8.2 mile radius.[10] There is no countervailing argument from LMS proponents.

In addition, Cylink Corporation filed comments with the Commission which detailed an incident in Chicago where Teletrac personal contacted a customer of Cylink's that had purchased a Part 15 data radio which Teletrac claimed was interfering with

billion dollars. That figure does not include non Coalition members like InterDigital and others. If the total investment of all Part 15 companies were totaled it would far exceed the 2 billion dollar investment of the Part 15 Coalition members.

This total investment is directly at risk. Teletrac has provided a glimpse into the future by their action in the Cylink Chicago incident. If invested with a permanent license by the Commission, LMS licensees would be forced by the high interference levels to track down the commercial interferers and force them to cease. The chilling effect this would have on the marketplace for Part 15 equipment is obvious.

Further, consumer owned devices (like the new digital cordless phones) would prove more intractable. They are highly nomadic and if located, would resist action to shut them off. Accordingly, if given permanent licenses, it is highly likely that Teltrac would return to the Commission shortly after building out their systems and ask for help to rid the band of Part 15 consumer devices. At that point the Commission would face an enormous backlash of industry protest.

It seems more prudent to face these issues before final rules are written. One way to accomplish that is to provide Commission support to a industry technical forum which could provide overall technical consensus on actions needed to make this band more amenable to cooperative sharing.

C. THE COMMISSION SHOULD REQUIRE A THAT INDUSTRY REPRESENTATIVES MEET IN TECHNICAL DISCUSSIONS.

The current proposal to allow wideband LMS systems to operate in the shared 902-928 MHz band is unworkable. The amount of interference between and among the narrowband and LMS systems and the Part 15 users preclude further action as contemplated by the NPRM. Instead, the Commission should require an industry negotiated solution which would allow some of these services to co-exist interference-free.

For example, narrowband AVM's and Part 15 devices seem able to share the band with no destructive interference. However, as the new Part 15 devices enter the marketplace it may be prudent to work together to share information on technology characteristics which could preclude a future problem with this band.

Similarly, LMS may be able to operate with a more robust technology and less spectrum within a less intrusive architecture which would not be as sensitive to co-channel interference. In the event however, the Commission believes the arguments put forward by Teltrac that 8 MHz is required to provide an "economical service" then the only alternative is to locate LMS in alternate spectrum of which there are sufficient other choices.

D. THE LMS ALLOCATION SHOULD BE MADE IN DISCRETE SPECTRUM IN IN THE "EMERGENCY TECHNOLOGY" BAND.

The evidence is overwhelming that wideband AVM cannot co-exist in the 902-928 MHz band without causing and receiving

interference from both narrowband AVM and Part 15 equipment. The proposal, as written, would deal with that problem by dislocating narrowband AVMs to a separate part of the band and allowing Part 15 and wideband AVMs to interfere with each other.

There is a better way which would not involve destroying two services and dislocating the other. That is finding discrete spectrum for LMS in other more suitable spectrum.

Any attempt to shoe-horn LMS into this band in the current wideband configuration would eventually trigger a follow-on proceeding to remove Part 15 from the band. That process could be protracted at best and impossible at worst. In the interim, two industry segments, Part 15 and LMS would offer degraded service to their customers which they would blame on the other.

The Commission needs to "bite the bullet" and act decisively in this proceeding. If a full 8 MHz of spectrum is needed to provide an economically viable LMS, and two providers are needed to provide some competition, then the inescapable conclusion is that discrete spectrum is needed and that, obviously, is not to be found in the 902-928 MHz band.

Fortunately, there are several other spectrum bands

MHz of spectrum will be transferred from the federal government to the FCC for new and emerging technologies[13]. That would make a logical home for LMS.

II. CONCLUSION

The Commission should encourage all industry representatives to participate in joint technical meetings to find industry solutions to the interference potential caused by multi-service sharing of the 902-928 MHz band.

Further, if such a committee verifies the consensus of the comments in this proceeding that sharing is impossible, the Commission should abandon plans to locate LMS in the 902-928 MHz band and find a spectrum home for the service that can accommodate its need for exclusive spectrum.

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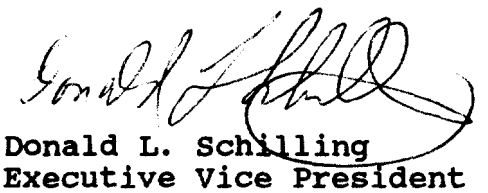
[13] The budget reconciliation package contains language that directs the Department of Commerce to identify 200 MHz of spectrum to be transferred from the public to the private sector. It is anticipated that the first block of spectrum will be transferred before the end of the year.

Finally, the Commission should move quickly to provide direction to the future use of this band. Any further delay will have a "chilling" impact on the marketplace for Part 15 as well as AVM service.

Respectfully submitted,



Donald L. Schilling
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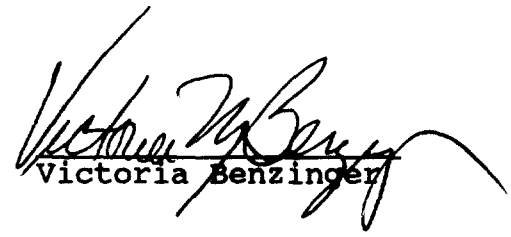
June 28, 1993

CERTIFICATE OF SERVICE

I, Victoria Benzinger, hereby certify that a copy of the foregoing Reply Comments of InterDigital Communications Corp. was mailed first-class United States mail, postage prepaid, this 28th day of July, 1993 to the parties listed on the attached service list.



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